



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

March 9, 2017

17-NWP-026

Mr. Doug Shoop, Manager
Richland Operations Office
United States Department of Energy
PO Box 550, MSIN: A7-50
Richland, Washington 99352

Re: Inspection Close-out Letter for Air Operating Permit (AOP) Discharge Points Managed by CH2M
HILL Plateau Remediation Company (CHPRC): 1.4.38, 1.4.49, 1.4.53, 1.4.54, and 1.4.55

Dear Mr. Shoop:

As part of continuous compliance verification, the Department of Ecology (Ecology) conducts facility inspections of units subject to the Hanford Site Air Operating Permit (AOP) and Approval Orders. This letter is provided to communicate the results of an inspection that was performed by Ecology on August 8, 2016, of discharge points managed by CHPRC: 1.4.38, 1.4.49, 1.4.53, 1.4.54, and 1.4.55. Applicable conditions found in AOP 00-05-06 Renewal 2, Revision B were used as a basis for the inspection. Records were reviewed for the time periods January 1, 2015 to August 8, 2016.

The results of the inspection and compliance status are provided below along with any recommendations.

1.4.38 100K Water Treatment Plant

- Ecology has determined that 1.4.38 100K Water Treatment Plant was in intermittent compliance for 2015 and 2016. See below for details of compliance determination.
- Vendor certifications for diesel fuel sulfur content on all fuel purchases were provided.
 - The Operation and Maintenance (O&M) manual has weekly requirements to: check: air cleaner, battery, coolant hoses, coolant levels, cooling water solenoid valve, exhaust system, fuel tank, general inspection, governor run-stop control, jacket water heater, lubrication oil level, operating gauges, remove water from fuel filter, run engine, and warning light. The records indicate weekly checks are being performed on operating gauges, run engine, battery, coolant hoses, coolant levels, exhaust system, fuel tank, lubricating oil level, and warning light. However, the records indicate the following requirements were not being performed accordingly or Ecology was otherwise unable to determine what specific work was being performed: remove water from oil filter, jacket water heater, governor run-stop control, general inspection, cooling system solenoid valve and air cleaner. For example, there are line items in the work packages that hint to similar type maintenance, however, since the line items are not specific it makes it difficult for Ecology to determine what exact work is being performed under those various line items.
 - The O&M manual has requirements to perform the following every six months: clean batteries, check battery charging alternator, check belts, clean cooling water strainers, check driveshaft U-Joints and check fuel lines.



The records indicate that the following are being performed monthly: clean batteries, check battery charging alternator and check fuel lines. However, the records indicate the following requirements were not being performed accordingly or Ecology was otherwise unable to determine what specific work was being performed: check belts, clean cooling water strainers and driveshaft U-joints. For example, the work packages have descriptions of maintenance such as "Monthly P.M.," "P.M. Maintenance," and "Inspection" but since they are not specific it makes it difficult for Ecology to determine what work is being performed under these descriptions.

- The O&M manual has yearly requirements to: clean air cleaner, clean fuel lift pump strainer, check coolant inhibitor, check crankcase system, lubricate driveshaft U-joints, replace fuel and oil filters, check heat exchanger electrode, replace lubricating oil, check mounting isolators, and check wiring system. The records indicate that the wiring system, air filter (air cleaner), crankcase vent system, heat exchanger electrode and the mounting isolators were performed in 2016. There appears to be line items for some of the above requirements in 2016 records but were not checked off in a similar manner as other items, therefore, Ecology has determined that the following requirements were not performed in 2016: clean fuel lift pump strainer, check coolant inhibitor, lubricate driveshaft U-joints, replace fuel and oil filters, replace lubricating oil, and check mounting isolators. The records for 2015 indicate that none of the above yearly requirements were performed.
- It is recommended to develop a work maintenance schedule that meets the requirements provided in the O&M manual, to provide line items in checklists/work packages that mirror those listed in the O&M manual, and to write out what exact work is being performed instead of mechanics short hand notes. It is also recommended to specify in the maintenance records if the various maintenance requirements were either inspected, cleaned or changed out.
- It is also recommended to consolidate the records to facilitate an accurate and timely review. Ecology observed that there is additional information mismatched in the submitted records that does not directly pertain to maintenance, which makes the records "busy" and difficult to review. For example, there are sign in sheets, safety procedures, pre-job briefings, various line items which do not pertain to required maintenance, etc. It is also recommended to be consistent when providing check marks next to maintenance line items which are respectively being performed which allows Ecology to determine if specific maintenance requirements are being met.

1.4.49 400 Area Emergency Backup Fire Pump

- Ecology has determined that the 400 Area emergency backup fire pump was in intermittent compliance for 2015 and 2016. See below for details of compliance determination.
- Vendor certification for diesel fuel sulfur content was provided for all purchases.
 - The AOP has requirements to change the oil, change oil filter and to inspect the air cleaner every 1000 hours of operation or annually and to inspect all hoses and belts every 500 hours of operation or annually. The AOP also has requirements to operate and maintain the engine in accordance with manufacturer's recommendations or instructions. Since the O&M has requirements that are more restrictive than those provided in the AOP, the O&M manual will be used as the basis for the inspection.

- The O&M manual has daily requirements to: check operators report, check leak and correct, check engine oil levels, check convertor oil level, lubricate PTO bearing, check/refill coolant level, drain fuel tanks, clean breather, fill fuel tanks, check oil bath air cleaner oil level, and clean pre-cleaner and dust pan. The records indicate that these daily requirements are not being performed.
- The O&M manual has requirements to perform the following every 250 hours of operation or every three months: change engine oil, check/change hydraulic governor oil, change oil filters, change by-pass oil filter, record oil pressure, lubricate electrical equipment, change fuel filter, drain sediment, check air piping, check air cleaner restriction gauge, clean/change dry-type/composite cleaner element, replace cartridge-type cleaner element, clean radiator core, check throttle linkage, check fuel pump seals, check engine coolant/change resistor element and check/adjust drive belt tension. The records indicate that the following were not being performed accordingly or Ecology was otherwise unable to determine what specific maintenance was being performed: change engine oil, check/change hydraulic governor oil, change oil filters, change by-pass oil filter, lubricate electrical equipment, change fuel filter, drain sediment, check air piping, check air cleaner restriction gauge, clean/change dry-type/composite cleaner element, replace cartridge-type cleaner element, clean radiator core, and check throttle linkage. For example, some of the records provide check marks next to various maintenance items, indicating that that specific maintenance requirement was performed, while other records are not provided with the same check marks. This inconsistency makes it difficult for Ecology to determine if a specific maintenance requirement was in fact being performed.
- It is recommended to develop a work maintenance schedule that meets the requirements provided in the operations and maintenance manual and to provide line items in maintenance records that mirror those listed in the O&M manual. It is also recommended to consolidate the maintenance records eliminating information that does not directly pertain to maintenance required to be performed. Ecology observed that there is additional information mismatched in the submitted records that does not directly pertain to maintenance, which makes the records “busy” and difficult to review. For example, there are sign in sheets, safety procedures, pre-job briefings, various line items which do not pertain to required maintenance, etc.

1.4.53 282-B Engine

- Ecology has determined that the 282-B engine was in continuous compliance for 2015 and 2016. See below for details of compliance determination.
 - The AOP has requirements to change the oil, change oil filter and to inspect the air cleaner every 1000 hours of operation or annually and to inspect all hoses and belts every 500 hours of operation or annually. The AOP also has requirements to operate and maintain the engine in accordance with manufacturer’s recommendations or instructions. The O&M manual specifies required maintenance on an hourly basis; whereas the AOP provides for required maintenance on an hourly and time lapse basis. The more restrictive maintenance requirements were used as the basis for the inspection.
 - The O&M manual has daily requirements to: check the oil and coolant levels, remove sediment and water from the strainer and filter, check the oil level in the torquomatic converter

and the marine gear. The daily instructions pertain to routine or daily starting of the engine and not to a new engine or one that has not been operated for a considerable period of time. The records indicate that these daily requirements are not being performed, however, since the engine had only operated 4.7 hours in 2015 and 3.5 hours in 2016, Ecology considers that these daily requirements need not apply.

- o The records indicate that the following had been performed annually as specified in the AOP: change oil and oil filter, inspect the air cleaner, and inspect all hoses and belts.

1.4.54 282-BA Engine

- Ecology has determined that the 282-BA engine was in continuous compliance for 2015 and 2016. The 282-BA engine powered a backup deep well pump that became inoperable and was not a candidate for replacement. In January 2015 the engine was taken out of service and there are no plans to operate the emergency diesel engine in the future. The unit has been electrically isolated from automatic startup, the batteries disconnected, and the fuel lines to the engine have been physically isolated from the fuel source. In letter 16-ESQ-0051 USDOE submitted an Off-Permit Change Request to have 1.4.54 282-BA removed from the AOP. The 282-BA engine will be removed from the AOP upon future renewals/revisions.

1.4.55 225-BC Engine

- Ecology has determined that the 1.4.55 225-BC engine was in continuous compliance for 2015 and 2016. The USDOE notified Ecology in an email dated August 3, 2016 that the 225-BC engine had been physically removed with no intent of replacing and requested to have it removed from the AOP. During the inspection, Ecology verified that the 1.4.55 engine had been physically removed from its location. The available records indicate that the engine operated for a total of 12.6 hours in 2015 and did not operate in 2016. The records indicate that the required maintenance specified in the AOP and O&M manual was performed in 2015. Upon formal notification, the 1.4.55 225-BC engine will be removed from future AOP renewal/revisions.

Should you have any questions, please contact me at daniel.heuston@ecy.wa.gov or (509) 372-7895.

Sincerely,



Daniel Heuston, PE
Environmental Engineer 3
Nuclear Waste Program

dh/jvs

cc: See page 5

Mr. Doug Shoop
March 9, 2017
Page 5 of 5

17-NWP-026

cc electronic:

Donald Dossett, USEPA
Doug Hardesty, USEPA
Jim McAuley, USEPA
Katie McClintock, USEPA
Dennis Bowser, USDOE-ORP
Eric Faust, USDOE-RL
Joel Williams, CHPRC
Reed Kaldor, MSA
Jon Perry, MSA
Matthew Barnett, PNNL
Ken Niles, ODOE
John Martell, WDOH
Lilyann Bauder, Ecology
Philip Gent, Ecology
Daniel Heuston, Ecology
Ron Skinnarland, Ecology
Environmental Portal
Hanford Facility Operating Record
CHPRC Correspondence Control
USDOE-ORP Correspondence Control
USDOE-RL Correspondence Control

cc: Robin Priddy, BCAA
Rodney Skeen, CTUIR
Gabriel Bohnee, NPT
Russell Jim, YN
Susan Leckband, HAB
Administrative Record
NWP Central File